

**IN THE CLAIMS:**

Claims 2, 9, 10, 12, 14, 15, 17-21, and 23 were previously cancelled. Claims 1, 3-8, 11, 13, 16, and 22 have been amended herein. All of the pending claims 1, 3-8, 11, 13, 16, and 22 are presented below. This listing of claims will replace all prior versions and listings of claims in the application. Please enter these claims as amended.

**Listing of the Claims:**

1. (Currently amended) A recombinant ~~mammalian~~ receptor comprising:  
an extracellular ligand-binding domain of a mammalian receptor; and  
a cytoplasmic domain comprising a domain derived from a cytoplasmic domain of a mammalian receptor, at least one activation site and a heterologous bait polypeptide heterologous to the domain derived from a cytoplasmic domain of a mammalian receptor;  
wherein the activation of said recombinant ~~mammalian~~ receptor is inhibited by binding of a fusion protein to said heterologous bait polypeptide, said fusion protein comprising a prey polypeptide and at least one of an inhibitor of the activation of said recombinant ~~mammalian~~ receptor and a recruitment site for the inhibitor of the activation of said recombinant ~~mammalian~~ receptor.
2. (Cancelled).
3. (Currently amended) The recombinant ~~mammalian~~ receptor of claim 1, wherein said recombinant ~~mammalian~~ receptor is activated by the addition of a compound that disrupts an interaction between said heterologous bait polypeptide and said prey polypeptide.
4. (Currently amended) The recombinant ~~mammalian~~ receptor of claim 1, wherein said recombinant ~~mammalian~~ receptor is a homomultimerizing receptor.

5. (Currently amended) The recombinant ~~mammalian~~ receptor of claim 1, wherein said recombinant ~~mammalian~~ receptor is a heteromultimerizing receptor.

6. (Currently amended) The recombinant ~~mammalian~~ receptor of claim 1, wherein the binding of said prey polypeptide depends upon a modification state of said heterologous bait polypeptide.

7. (Currently amended) The recombinant ~~mammalian~~ receptor of claim 6 wherein the modification state comprises presence or absence of phosphorylation, acetylation, acylation, methylation, ubiquitination or glycosylation.

8. (Currently amended) The recombinant ~~mammalian~~ receptor of claim 6, wherein a change of the modification state is dependent upon binding of a ligand to the extracellular ligand-binding domain.

9-10. (Cancelled).

11. (Currently amended) A vector encoding the recombinant ~~mammalian~~ receptor of claim 1.

12. (Cancelled).

13. (Currently amended) A eukaryotic ~~mammalian~~ cell comprising the recombinant ~~mammalian~~ receptor of claim 1.

14-15. (Cancelled).

16. (Currently amended) A cloning vector encoding a recombinant ~~mammalian~~ receptor, comprising:

a nucleotide sequence encoding a cytoplasmic domain of a mammalian receptor, wherein the nucleotide sequence comprises at least one restriction site configured to allow an in frame fusion of a nucleic acid sequence encoding a bait polypeptide, wherein insertion of the nucleic acid sequence encoding said bait polypeptide results in the vector of claim 11.

17-21. (Cancelled).

22. (Currently amended) A recombinant ~~mammalian~~ transmembrane receptor, comprising:

a cytoplasmic domain comprising an intracellular domain derived from a mammalian receptor, a bait polypeptide and an activation site, wherein an interaction of a prey polypeptide with the bait polypeptide prevents the activation site from activating the recombinant ~~mammalian~~ transmembrane receptor; and

an extracellular domain having a ligand binding domain derived from a mammalian receptor, wherein binding of a ligand to the ligand binding domain activates the recombinant ~~mammalian~~ transmembrane receptor upon disruption of the interaction between the prey polypeptide and the bait polypeptide;

wherein the bait polypeptide is heterologous to the intracellular domain.

23. (Cancelled).